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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/763,445	01/23/2004	Kevin D. Beaty	66046-0007	7427
10291	7590	10/25/2005	EXAMINER	
RADER, FISHMAN & GRAUER PLLC 39533 WOODWARD AVENUE SUITE 140 BLOOMFIELD HILLS, MI 48304-0610			PANG, ROGER L.	
			ART UNIT	PAPER NUMBER
			3681	

DATE MAILED: 10/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/763,445

Applicant(s)

BEATY ET AL.

Examiner

Roger L. Pang

Art Unit

3681

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on September 21, 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-50 is/are pending in the application.
- 4a) Of the above claim(s) 6, 10, 21, 32, 36 and 42-48 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 7-9, 11-20, 22-31, 33-35, 37-41, 49 and 50 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>1-23-04 & 8-19-05</u> . | 6) <input type="checkbox"/> Other: _____ |

66

DETAILED ACTION

The following action is in response to communications filed for application 10/763,445 on September 21, 2005.

Election/Restrictions

Claims 6, 10, 21, 32, 36, 42-48 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected species and group, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on September 21, 2005.

With regard to applicant's arguments:

Applicant argues that the restriction is inappropriate since claims 37-50 are generic. These claims are generic, with regard to the different species, however, a "generic" status does not matter in a restriction. Claims can read upon the same species, but be part of different groups (combination, subcombinations, etc.). Applicant's arguments have been considered, but are not persuasive.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-2, 8, 28-29, and 34 are rejected under 35 U.S.C. 102(b) as being anticipated by Sakamoto '397. With regard to claims 1 and 28, Sakamoto teaches a powertrain system, comprising: a prime mover 1; a change-gear transmission (Fig. 1) including an input 19, at least

Art Unit: 3681

two gear ratios, and an output; and a power shunt configured to route power applied to the transmission by one of the input and the output to the other one of the input and the output (Fig. 1). With regard to claims 2 and 29, Sakamoto teaches the system, wherein the power shunt includes a first motor-generator M1 and a second motor-generator M2. With regard to claims 8 and 34, Sakamoto teaches the system, wherein the first motor-generator is a motor and the second motor generator is a generator when the driveline torque is negative (Fig. 6).

Claims 1-2, 7-8, 14-20, 22-23, 26-29, 33-34 and 40-41 are rejected under 35 U.S.C. 102(b) as being anticipated by Loeffler '127. With regard to claims 1 and 28, Loeffler teaches a powertrain system, comprising: a prime mover 12; a change-gear transmission 38 including an input, at least two gear ratios, and an output; and a power shunt configured to route power applied to the transmission by one of the input and the output to the other one of the input and the output (Fig. 1). With regard to claims 2 and 29, Loeffler teaches the system, wherein the power shunt includes a first motor-generator 24/26 and a second motor-generator 38/30. With regard to claims 7 and 33, Loeffler teaches the system, wherein the first motor-generator is a generator and the second -motor generator is a motor when the driveline torque is positive (Col. 3). With regard to claim 8 and 34, Loeffler teaches the system, wherein the first motor-generator is a motor and the second motor-generator is a generator when the driveline torque is negative (Col. 3). With regard to claims 14 and 40, Loeffler teaches the system, wherein the ratio gears are engaged by a clutch 42 and the power shunt is configured to route power applied to the transmission by one of the input and the output to the other one of the input and the output such that power transmitted between a selected ratio gear and an engaging clutch significantly decreases or falls to zero (Col. 3). With regard to claims 15 and 41, Loeffler teaches the system,

Art Unit: 3681

wherein the ratio gears are engaged by a clutch 42 and the power shunt is configured to route power applied to the transmission by one of the input and the output to the other one of the input and the output such that the rotational speed of the ratio gear is substantially similar to the rotational speed of an engaging clutch during a gear ratio change (Col. 3). With regard to claim 16, Loeffler teaches a power train system, comprising: a prime mover 12; a change-gear transmission 38 that includes an input, at least two gear ratios and an output; a first motor-generator 24/26 connected to the input and a second motor-generator 28/30 connected to the output, a first power path 20/36 between the input and the output of the transmission, the first power path defined by the gear ratios of the transmission; and a second power path between the input and the output of the transmission, the second power path defined by the first and second 22 motor-generators. With regard to claim 17, Loeffler teaches the system, wherein the first and second motor-generators are configured to route power through the second power path such that the power applied to the input is substantially similar to the power applied to the output during a gear change event (Col. 3). With regard to claim 18, Loeffler teaches the system, wherein the first motor-generator is a generator and the second -motor generator is a motor when the driveline torque is positive (Col. 3). With regard to claim 19, Loeffler teaches the system, wherein the first motor-generator is a motor and the second motor-generator is a generator when the driveline torque is negative (Col. 3). With regard to claim 20, Loeffler teaches the system, wherein the second power path includes electric power generated by one of the first and second motor-generators (Fig. 1). With regard to claim 22, Loeffler teaches the system, wherein the first and second motor-generators are either a motor or a generator (Col. 2). With regard to claim 23, Loeffler teaches the system, wherein the input is an input shaft 20 and the output is an output

Art Unit: 3681

shaft 36. With regard to claim 26, Loeffler teaches the system, wherein the ratio gears are engaged by a clutch 42 and the power shunt is configured to route power applied to the transmission by one of the input and the output to the other one of the input and the output such that power transmitted between a selected ratio gear and an engaging clutch significantly decreases or falls to zero (Col. 3). With regard to claim 27, Loeffler teaches the system, wherein the ratio gears are engaged by a clutch 42 and the power shunt is configured to route power applied to the transmission by one of the input and the output to the other one of the input and the output such that the rotational speed of the ratio gear is substantially similar to the rotational speed of an engaging clutch during a gear ratio change (Col. 3).

Claims 1-5, 7, 9, 11-13, 28-31, 33, 35, and 37-38 are rejected under 35 U.S.C. 102(b) as being anticipated by Schmidt '757. With regard to claims 1 and 28, Schmidt teaches a powertrain system, comprising: a prime mover 14; a change-gear transmission 10 including an input 12, at least two gear ratios L/H, and an output; and a power shunt configured to route power applied to the transmission by one of the input and the output to the other one of the input and the output (Fig. 1). With regard to claims 2 and 29, Schmidt teaches the system, wherein the power shunt includes a first motor-generator 56 and a second motor-generator 72. With regard to claims 3 and 30, Schmidt teaches the system, wherein the first motor-generator is connected to the input and the second motor-generator is connected to the output (Fig. 1). With regard to claim 4, Schmidt teaches the system, wherein the first motor-generator is driven by the prime mover. With regard to claims 5 and 31, Schmidt teaches the system, wherein the first and second motor-generators are electric motor-generators (Col. 7, line 21). With regard to claim 7 and 33, Schmidt teaches the system, wherein the first motor-generator is a generator and the

Art Unit: 3681

second-motor generator is a motor when the driveline torque is positive (Fig. 5, driving up to point 96). With regard to claims 9 and 35, Schmidt teaches the system, wherein the power shunt includes electric power generator by one of the first and second motor-generators (via 76-74). With regard to claims 11 and 37, Schmidt teaches the system, wherein the input is an input shaft 12 and the output is an output shaft 64. With regard to claims 12 and 38, Schmidt teaches the system, wherein the power shunt includes an energy storage device 74. With regard to claims 13 and 39, Schmidt teaches the system, wherein the energy storage device stores electric power or fluid power (Col. 7).

Claims 49-50 are rejected under 35 U.S.C. 102(b) as being anticipated by Bowen '291.

With regard to claim 49, Bowen teaches a powertrain system, comprising: a change-gear transmission 20 including an input, at least two gear ratios, and an output (Fig. 2), a prim mover 18 connected to the input and configured to apply power to the transmission; and a motor-generator 120/122 connected to the output and adapted to absorb or apply power to the output in conjunction with a corresponding increase or decrease, respectively, in the application of power by the prime mover to the transmission to facilitate a gear ratio change in the transmission (page 4). With regard to claim 50, Bowen teaches the system, wherein the powertrain system includes an energy storage device 124 configured to store power received from the motor-generator when the motor-generator absorbs power from the output and further configured to provide power to the motor-generator when the motor-generator applies power to the output (Fig. 3).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 24-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Loeffler as applied to claim 16 above, and further in view of Sakamoto '39. With regard to claims 24-25, Loeffler teaches the system comprising an energy storage device (flywheel/motor/generator), but lacks the specific teaching of an electric energy storage device. Sakamoto teaches of two electric motor-generators M1/M2 and an electric storage device 49. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Loeffler to employ an electric energy storage device in further view of Sakamoto in order to collect surplus energy generated during generator modes.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Stridsberg, Schnelle and Sakamoto '109 have been cited to show similar transmissions and controls.

FACSIMILE TRANSMISSION

Submission of your response by facsimile transmission is encouraged. The central facsimile number is (571) 273-8300. Recognizing the fact that reducing cycle time in the processing and examination of patent applications will effectively increase a patent's term, it is to your benefit to

Art Unit: 3681

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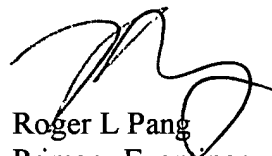
Art Unit: 3681

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Roger L. Pang whose telephone number is 571-272-7096. The examiner can normally be reached on 5:30am to 4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Marmor can be reached on 571-272-7095. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Roger L Pang
Primary Examiner
Art Unit 3681

October 20, 2005